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COMPLETE SPECIFICATION

Self Adhesive Strapping Tape

I, JOHN SERGIO VITA, a British subject of 14, Burnshall Street, London, S.W.3, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with self adhesive strapping tape which finds wide application in the sealing, joining and fixing of articles.

According to this invention, there is provided a self adhesive strapping tape made up of two superimposed webs with reinforcement means of fibrous material disposed therebetween, one surface of the tape having a pressure sensitive adhesive property and the other surface having a release property so that the tape when in roll form, may be easily unrolled.

One web will usually be of paper with a pressure sensitive adhesive on one side thereof to give the tape said adhesive property, the adhesive being a polyisobutylene or a synthetic rubber based adhesive. Preferably this web provides most of the tensile strength of the laminate.

The other web will generally be of paper which has been treated with organic silicon compounds known as silicones or other chemicals having release properties. Such treatment imparts a waxy feel to the paper web giving it a non-stick property.

The reinforcement means may comprise textile fibre filaments arranged in the longitudinal and/or transverse direction of the tape when formed. Suitable materials for the reinforcement means include jute or cotton, or glass fibre or fibres of nylon or polypropylene.

The reinforcement means may be a web or [Price 4s. 6d.]

scrim of fibrous material or alternatively the reinforcement may be applied as discrete fibres in a regular pattern or in a random manner at very narrow intervals such as 1/16th inch.

Usually the two webs will be secured together by an adhesive resin, for example a petroleum based, cross linking resin, applied to one or both inner surfaces of the webs or to the reinforcement means. If desired, the adhesive resin may be so selected as to improve the water repellent characteristic of the tape.

The invention will now be described further, by way of example only, with reference to the accompanying drawings illustrating several embodiments thereof and in which:—

Fig. 1 is a diagrammatic perspective view of a first embodiment;

Fig. 2 is a section on line II—II of Fig. 1;

Fig. 3 is a view corresponding to Fig. 1 and shows a further embodiment; and

Fig. 4 is a section corresponding to Fig. 2 of a still further embodiment.

Referring now to the drawings, and particularly to Figs. 1 and 2 thereof, a self adhesive strapping tape comprises two webs 11, 12 arranged one upon the other and having a reinforcement web 13 disposed therebetween.

The webs 11, 12 are each of paper and the outer surfaces thereof are respectively provided with a pressure sensitive adhesive surfacing 14 and a non-stick surfacing 15, the adhesive preferably being a polyisobutylene or a synthetic rubber based adhesive, and the non-stick surfacing resulting from the silicone treatment of the web.

The reinforcement web 13 comprises an open gauze or mesh of a textile material interposed between the outer webs 11, 12 and the

said outer webs are secured one to the other by an adhesive resin thereby to locate and to hold the reinforcement web therebetween.

In a second embodiment (see Fig. 3) the woven gauze or mesh is replaced by a multiplicity of discrete fibres 16, the said fibres being of textile material and being randomly distributed, as shown in the drawings, or arranged in the longitudinal or transverse directions of the tape as preferred.

In a modification, not illustrated a flexible sheet of a synthetic thermoplastic material is located between two outer layers such sheet serving the function by virtue of its thermoplastic characteristic, of providing a means whereby the outer sheets 11,12 can be joined upon the application of heat and pressure. In this modification reinforcement means of the general character of the reinforcement means provided in the embodiments above described is also included between the webs 11,12 and the thermoplastic material is included for its heat sealing capabilities. Such thermoplastic material may be polypropylene, polyethylene or Melinex (Registered Trade Mark).

A further embodiment is shown in Fig. 4 and will be seen to comprise two outer webs 11,12 and an intermediate reinforcing layer 13, one web 11 having a metallised surface 15¹ which constitutes the non-stick surface and the other having a pressure sensitive adhesive surfacing 14¹ on its outer face. The webs are paper whilst the reinforcing layer is similar to that described in relation to Figs. 1 and 2. An additional layer of thermoplastic material, for example polypropylene or polyethylene film is also included between layers 11 and 12.

We have found that the best advantages of such a tape are that it may be made in various different strengths by adjusting the composition and thickness of the web having the pressure sensitive adhesive coating and the reinforcement means; it provides a quick and reliable bond due to the presence of pressure sensitive adhesive; it is water repellent when the outer surface is silicone treated; it unwinds easily due to the ease with which the siliconised outer surface releases the overlying adhesive surface, and it may be made relatively cheaper compared with other strapping tapes.

WHAT I CLAIM IS:—

1. A self adhesive strapping tape made up

of two superimposed webs with reinforcement means of fibrous material disposed therebetween, one surface of the tape having a pressure sensitive adhesive property and the other surface having a release property so that the tape when in roll form may be easily unrolled.

2. A strapping tape as claimed in claim 1 wherein one web is of paper and one surface thereof has a pressure sensitive adhesive applied thereto to form the pressure sensitive adhesive property of the tape.

3. A strapping tape as claimed in claim 1 or 2, wherein the reinforcement means is a web or scrim.

4. A strapping tape as claimed in claim 1 or 2, wherein the said reinforcement means comprises a multiplicity of discrete fibres.

5. A strapping tape as claimed in claim 3 or 4, wherein the web, scrim or discrete fibres is or are of textile material.

6. A strapping tape according to any one of the preceding claims including a third web between the two webs, said third web being of thermoplastic material.

7. A strapping tape as claimed in claim 6, wherein the said thermoplastic web joins the said two webs together.

8. A strapping tape as claimed in claim 6 or 7, wherein the thermoplastic material is polypropylene or polyethylene.

9. A strapping tape as claimed in any one of the preceding claims wherein the surface having the release property comprises a coating of an organic silicone compound.

10. A strapping tape as claimed in any one of claims 1 to 8 wherein the release property is provided by a metallic outer surface of the tape.

11. A strapping tape as claimed in claim 10, wherein the said metallic outer surface is defined by a metallised paper which forms one of the webs of the tape.

12. A self adhesive strapping tape substantially as hereinbefore described with reference to and as illustrated in the Figs. of the accompanying drawings.

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